



Sandy Ridge - Human health

An assessment of the potential impacts on human health during construction, operation and after closure of the Proposed Sandy Ridge Facility has been undertaken. The assessments looked at things such as;

- Baseline Radiation and Metals levels.
- Worker Dose Assessments.
- Water Quality Management.
- Mine Closure and Facility Decommissioning.
- Closure Management.



Activities which were considered to pose the greatest potential impact on human health included;

- Dust from the mining of kaolin.
- Handling of hazardous and intractable waste.
- Handling of low level radioactive waste.
- Bushfire.

Dust would be generated by earthmoving activities during operations where vehicles are driving over un-sealed surfaces and excavating or dumping any excavated material. Dust would generally be controlled by spraying working areas with water from a water-truck equipped with both a dribble bar for roads and side sprays for stockpiles and working surfaces.



There are potential human health hazards from exposure to waste materials during the handling, loading, treatment and re-locating of packaged waste materials to the storage cells.



Measures to reduce the likelihood of events occurring where waste materials may be released through these activities would be strictly controlled using Management Plans. Although hazardous waste will mostly be handled with machinery, high standards of industrial hygiene and the use of Personal protective equipment (PPE) are very important.



Only solid, non-reactive, non-flammable, non-explosive materials and non-biodegradable materials would be placed in the cells. All wastes would be placed in layers with progressive backfilling to avoid the creation of voids. As a result, the waste would be stable and inert.

Exposure to radiation during operation of the proposed Facility is highly unlikely due to low baseline radiation levels and the very low levels of radioactive material that would be delivered to Sandy Ridge. The initial worker dose assessments concludes that it is highly unlikely that workers would be exposed to levels above the dose constrain limit. Risks would be further reduced by following standard guidelines and procedures for the transport and handling of dangerous and hazardous goods.



An assessment of the level of radiation after the facility has been closed concluded that exposures can be appropriately managed in line with regulatory guidance.

The proposed development envelope is located within the Goldfields Bushfire Region, which experiences long periods of extreme fire weather in the dry summer months. Bushfires in this region are mostly started by lightning and while infrequent, under extreme weather conditions they can be large in scale, intense and burn all vegetation types.

If bushfire was to affect the Facility the potential for subsequent exposure to waste materials may increase. The likelihood of a bushfire affecting stored waste would be minimised by clearing vegetation surrounding the operational areas and having a trained and well equipped fire fighting team.

The low level radioactive waste warehouse and inspection area which may temporarily store wastes would be fire rated. Fuel and explosive storage facilities and systems would be designed to meet relevant codes.



In summary, mitigation and management measures would be implemented for all aspects of the facility operation to reduce human health impacts during construction, operation and following closure of the Facility.

The provision of multiple barriers of containment around waste, knowledge of waste content, training and supervision of all employees, appropriate PPE, monitoring of worker health and the continued improvement of waste handling and storage procedures would minimise the risk of adverse impacts on human health.

With the implementation of the mitigation and management measures outlined above, the objective to ensure that human health is not adversely affected would be achieved.

